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April 24, 2007

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Re: Title: MOUNTING ARRANGEMENT FOR LIGHT EMITTING DIODES
Letters Patent No. 7,114,831
Issued: October 3, 2006
Our Reference: PERMLT.019C1

Dear Sir:

Enclosed for filing is a Certificate of Correction in connection with the above-identified patent.

Enclosed are copies of relevant pages of the List of References and Amendments as filed on February 27, 2006 and August 1, 2006 showing the text as presented by Applicant. The following table shows the correlation between Applicant's Submitted documents and the associated error in the issued patent that is to be corrected

Original		Issued Patent	
Page	Line	Column	Line
List of References cited by Applicant and considered by examiner Sheet 2 of 2		2	
Amendment filed 02/27/06, Page 2, Line 17		8	3
Amendment filed 08/01/06, Page 7, Claim 46		15	35
Amendment filed 08/01/06, Page 8, Claim 73		16	4
Amendment filed 08/01/06, Page 8, Claim 73		16	5
Amendment filed 08/01/06, Page 8, Claim 73		16	7
Amendment filed 08/01/06, Page 13, Claim 100		18	32
Amendment filed 08/01/06, Page 14, Claim 104		20	3

As the errors cited in the Certificate of Correction were incurred through the fault of the Patent Office, no fee is believed to be required. However, please charge our Deposit Account No. 11-1410 for any fees that may be incurred with this request.

Respectfully submitted,

Knobbe, Martens, Olson & Bear, LLP

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Enclosures

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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,114,831
APPLICATION NO. : 10/789,357
ISSUE DATE : October 3, 2006
INVENTOR(S) : John Popovich, et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

At Column 2, line 5, delete "AlInGaP" and insert --AlInGaP--, therefor.

At Column 8, line 3, delete "maimer" and insert –manner--, therefor.

At Column 15, line 35, in Claim 47, after "portion;" delete "and"

At Column 16, line 4, in Claim 49, after "second face" insert --conducting heat flow--.

At Column 16, line 5, in Claim 49, after "sink" delete "member," and insert --,--, therefor.

At Column 16, line 7, in Claim 49 delete "contact;" and insert –contacts;--, therefor.

At Column 18, line 32, in Claim 78, delete "then" and insert --than--, therefor.

At Column 20, line 3, in Claim 87, delete "illumination" and insert --illuminated--, therefor.

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DOCKET NO. PERMLT.019C1

PTO/SB/44 Equivalent

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. PERMLT.019C1	APPLICATION NO. 10/789,357
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (USE SEVERAL SHEETS IF NECESSARY)	APPLICANT John Popovich, et al.	
	FILING DATE February 27, 2004	GROUP ~~Unknown~~ 2875

LN	26	6,578,986	06/17/03	Swarts, et al.	—	—	
LN	27	6,582,100	06/24/03	Hochstein, et al.	—	—	
LN	28	6,582,103	06/24/03	Popovich, et al.	—	—	
LN	29	2001/0015891	08/23/01	Suzuki, et al.	—	—	

EXAMINER INITIAL		OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
LN	30	HEWLETT PACKARD, Super Flux LED's, Pages 1-25, 1-26, and il.
LN	31	HEWLETT PACKARD, Angeline Wong, Subminiature InGaN Blue Lamps, Pages 1-2, August 4, 1998.
LN	32	HEWLETT PACKARD, Thermal Management Considerations for Super Flux LEDs, Application Note 1149-4, Pages 1-11.
LN	33	HEWLETT PACKARD, Subminiature High Performance AlInGaP LED Lamps, Technical Data, Pages 1-161 – 1-162.

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EXAMINER Laura Tso	DATE CONSIDERED 10/04

*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows. Deletions are shown in ~~strikeout~~ text; additions are underlined.

Please amend paragraph [0056] as follows:

[0056] With reference also to Figure 6, the first reflective strip 80 is preferably bent so as to form a convex reflective trough about the LEDs 32. The convex trough is adapted to direct light rays 84 emitted by the LEDs 32 outward with a minimum of reflections between the reflector strips 80, 82. Additionally, light from the LEDs is limited to being directed in a specified general direction by the reflecting films 80, 82. As also shown in Figure 6, the circuit board 50 can be mounted directly to any mount surface 76.

Please amend paragraph [0067] as follows:

[0067] Power for the light source assembly 100 is preferably provided through a power cord 78 that enters the apparatus 100 through a back side of the base plate 106. The cord 78 preferably includes two 18 AWG conductors surrounded by an insulating sheet. Preferably, the power supply is in the low voltage range. For example, the power supply is preferably a 12-volt alternating current power source. As depicted in Figure 18, power is preferably first provided through a full wave ridge rectifier 140 which rectifies the alternating current in a manner known in the art so that substantially all of the current range can be used by the LED module 4030. In the illustrated embodiment, the LEDs are preferably not electrically connected to a current-limiting resistor. Thus, maximum light output can be achieved. It is to be understood, however, that resistors may be desirable in some embodiments to regulate current. Supply wires 142 extend from the rectifier 140 and provide rectified power to the LED module 30 mounted on the mounting tab 130.

45. (Currently Amended) The illumination apparatus ~~module~~ of Claim 39, wherein the heat conductive surface has a thermal conductivity greater than about 100 W/mK.

46. (Previously Presented) An illumination module for mounting on a heat conducting surface that is larger than the module, the module comprising:

a heat conductive body having a first side and a second side;

a thin dielectric portion on a first side of the heat conductive body;

a plurality of light emitting diodes (LEDs); and

a plurality of electrically-conductive contacts on a first side of the dielectric portion, the LEDs being mounted to the contacts such that the LEDs are electrically connected to one another, the contacts thermally communicating with the dielectric portion through a thermal communication area between the contacts and the first side of the dielectric portion;

wherein a second side of the dielectric portion is arranged on the first side of the heat conductive body so that the first side of the body is in thermal communication with the contacts through the dielectric portion; and

wherein the first side of the body has a surface area larger than the thermal communication area, and the second side of the body has a surface generally complementary to the heat conducting surface to provide thermally conductive contact with the heat conducting surface;

whereby heat is thermally conducted from the LEDs to the heat conducting surface; and

additionally comprising a heat conductive tab that comprises the heat conductive surface.

47. (Previously Presented) The illumination module of Claim 46, wherein the heat conductive tab is larger than the heat conductive body.

48-65. Cancelled

66. (Previously Presented) The illumination module of Claim 9, wherein the body is connected to the heat conductive surface so that heat flows from substantially the entire second side of the body to the heat conductive surface.

67. (Previously Presented) The illumination module of Claim 66, wherein the second side of the body is attached substantially flush to the heat conductive surface by an adhesive.

68. (Previously Presented) The illumination module of Claim 18, wherein substantially the entire second side of the body communicates with the heat conductive surface.

69. (Previously Presented) The apparatus of Claim 24, wherein the engagement surface of the heat conductive body is connected to the heat conductive surface via an adhesive.

70. (Previously Presented) The apparatus of Claim 69, wherein substantially the entire engagement surface engages the heat conductive surface so that the second thermal engagement area is substantially the same as the engagement surface area.

71. (Previously Presented) The apparatus of Claim 34 additionally comprising a heat sink within the housing, and the heat conductive surface is integrally formed with the heat sink.

72. (Previously Presented) The apparatus of Claim 71, wherein the heat conductive surface is generally flat, and at least a portion of the heat sink extends at an angle relative to the heat conductive surface.

73. (Previously Presented) An illumination device, comprising:

a light emitting diode (LED) module in combination with a heat sink member, the LED module attached to the heat sink member, the LED module comprising:

at least one LED;

a dielectric layer having first and second sides;

plural electrically-conductive contacts on the first side of the dielectric layer, the contacts being configured to mount the at least one LED such that the at least one LED is electrically connected to the contacts; and

a heat conductive body having a first and second face, the first face being on the second side of the dielectric layer, the body being in thermal communication with the plural contacts through the dielectric layer, the first face having a surface area at least the same as an aggregate surface area of one side of the contacts;

wherein the second face of the heat conductive body is attached to the heat sink member so that heat flows from the body to the heat sink member, at least an engagement portion of the second face conducting heat flow from the body to the heat sink, the engagement portion having a surface area at least the same as the aggregate surface area of one side of the contacts;

wherein the second side of the heat conductive body is connected to the mount portion, a thermal communication area between the second side of the body and the mount portion being greater than the thermal communication area between the contacts and the first side of the dielectric; and

wherein heat from the LED flows through the dielectric to the heat conductive body, and from the body to the heat sink via the mount portion.

101. (Previously Presented) An illumination device, comprising:

a light emitting diode (LED) module in combination with a heat sink member, the LED module attached to the heat sink member, the LED module comprising:

at least one LED;

a dielectric layer having first and second sides;

plural electrically-conductive contacts on the first side of the dielectric layer, the contacts being configured to mount the at least one LED such that the at least one LED is electrically connected to the contacts; and

a heat conductive body on the second side of the dielectric layer, the body being in thermal communication with the plural contacts through the dielectric layer;

wherein the heat conductive body is attached to the heat sink member so that heat flows from the body to the heat sink member; and

wherein the heat sink member comprises:

a surface area greater than a surface area of the heat conductive body; and

a mount portion integrally formed with the heat sink member and configured to accept the LED module, the mount portion being disposed at an angle relative to an adjacent portion of the heat sink member;

wherein the LED module is attached to the mount portion.

102. (Previously Presented) An illumination device as in Claim 101, wherein the LED module is fastened to the mount portion by an adhesive.

103. (Previously Presented) An illuminated display apparatus, comprising:

a plurality of the illumination devices recited in Claim 101 electrically connected to one another in an electrically parallel arrangement; and

a display member having a wall surface;

wherein at least one of the plurality of illumination devices is arranged on the wall surface.

104. (Previously Presented) An illuminated display apparatus as in Claim 103, wherein the wall surface is configured to function as a heat sink.

105. (Previously Presented) An illumination apparatus, comprising:

an illumination device as recited in Claim 101; and

a housing, the housing having a light outlet aperture and being attached to the heat sink member so as to generally enclose the LED module;

wherein the apparatus is adapted so that light from the LED module is directed out of the housing aperture.

106. (Previously Presented) An illumination apparatus as in Claim 105 additionally comprising an optical element for directing light from the LED module in a desired direction.

107. (Previously Presented) An illumination apparatus as in Claim 105, comprising a lens.

108. (Previously Presented) The illumination module of Claim 68, wherein the tab is angled relative to an adjacent portion of the heat conductive body.

109. (Previously Presented) The apparatus of Claim 26, wherein the heat conductive tab is disposed at an angle relative to the housing wall surface.

110. (Previously Presented) The apparatus of Claim 91, wherein the apparatus comprises a plurality of heat sinks, each heat sink having a mount portion, and at least one lighting module is attached to each mount portion so that the second face of the respective module heat conductive body is connected to the respective heat sink mount portion.

111. (Previously Presented) The apparatus of Claim 110, wherein each body is connected to the respective mount portion by an adhesive.

112. (Previously Presented) The apparatus of Claim 111 additionally comprising a pair of electrical supply wires, an elongate portion of the pair of electrical supply wires arranged within the housing, wherein each of the lighting modules is electrically connected to the elongate portion of the pair of electrical supply wires.